DECLARATION OF

MONICA L. BOND

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I, MONICA L. BOND, state as follows:

1. I am a wildlife biologist with expertise in wildlife biology, ecology, and behavior, and seven years of field research experience. I have worked as an academic research biologist and as a private consulting biologist. I hold a B.A. degree in Biology from Duke University (May 1992) and an M.S. degree in Wildlife Science from Oregon State University's Department of Fish and Wildlife (December 1998).
2. My graduate research focused on wildlife behavior, including use of space in response to intrinsic factors such as population densities and sex ratios, and to extrinsic factors such as habitat fragmentation. I have worked on wildlife demography studies involving capture-mark-recapture of gray-tailed voles (*Microtus canicaudus*), burrowing owls (*Athene cunicularia*), and California, Mexican, and northern spotted owls (*Strix occidentalis* spp.), and conducted protocol-level surveys for marbled murrelets (*Brachyramphus marmoratus*). I am published in the peer-reviewed literature for research on wildlife behavior and demographics, and wildlife-habitat associations. I have also conducted peer reviews of manuscripts for scientific journals. In addition, I have conducted vegetation surveys for the OSU Department of Forestry and the USDA Forest Service (Deschutes National Forest).
3. For the past two years, I have been employed as a biologist for the Center for Biological Diversity wherein I monitor activities on public and private lands to determine potential effects on biological resources. In this capacity, I have become

familiar with survey protocols for numerous wildlife species as required by the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

4. I am an active member of the National and Western Section of the Wildlife Society, an organization comprised of professional wildlife biologists employed in the private and public sectors, natural resource management agencies, and academia. I sit on the Western Section Wildlife Society's Conservation Affairs Committee, and am certified as a Wildlife Biologist (May 2000) by the Society. Please see attached C.V. for further details on my experience.
5. I understand from the documents available online at http://www.fs.fed.us/emc/lth/ that various National Forests were asked to send any results from past monitoring efforts of projects that would have qualified for categorical exclusion under category 4 or, if such monitoring data did not exist, to randomly monitor at least two projects, to validate whether their original "no significant impact on the human environment" finding had been correct. Herein, I will comment on the Forest Service's analysis of their monitoring data regarding non-significance for the proposed Limited Timber Harvest Categorical Exclusion with respect to endangered, threatened, and sensitive wildlife species.
6. To formulate these comments, I reviewed the following documents:

   - ✍ Methodology for Project Data Collection and Results of Review
   - ✍ Instructions for Timber Harvest Effects Monitoring
   - ✍ Initial data - data1.xls
   - ✍ Follow-up data - data2.xls
   - ✍ USDA Information Quality Guidelines for Regulatory Information

7. I have concluded that 1) it is virtually impossible for a qualified member of the public to independently examine the data and be able to make any conclusions regarding

non-significance, 2) the methodology utilized to determine effects of most categorically excluded projects on listed and sensitive wildlife is scientifically indefensible, and 3) the Forest Service has committed numerous violations of the USDA Information Quality Guidelines for Regulatory Information.

8. Independent Examination of the Monitoring Data

   As a qualified member of the public with extensive experience in research on wildlife-habitat associations, I was unable to conduct an independent re-analysis of the data to determine whether the Forest Service's conclusion that "the categories of actions defined above do not individually or cumulatively have significant effects on the human environment" is substantiated given the information provided. (*Methodology for Project Data Collection and Results of Review* at 4). I examined the database assembled from the monitoring reports (from http://www.fs.fed.us/emc/lth/data1.xls and http://www.fs.fed.us/emc/lth/data2.xls) to assess how the various resource specialists measured the effects of their projects on wildlife species. I looked at the monitoring techniques described in data1.xls and reviewed the more detailed information provided in data2.xls regarding the species affected by each project, the manner in which they were affected, and how the project avoided negative impacts.

9. According to the data1.xls database, 88% of the projects monitored the effects on listed and sensitive wildlife using observation, defined as "observing the area, examining species occurrence lists and reviewing past documentation." (*Instructions for Timber Harvest Effects Monitoring* at 4.) An additional eight were monitored using "other" techniques, seven provided no information whatsoever on monitoring

wildlife, and only four projects monitored effects using measurements. Field measurement can be considered the most robust method for monitoring wildlife impacts.

10. I then examined the four projects in which the project managers claimed that wildlife effects were monitored using measurements, to see what data I could obtain (i.e., methodology used to survey for wildlife, results of surveys, which wildlife species were affected, etc.) in order to make my own conclusion as to whether the project had a significant or non-significant effect on wildlife, as a qualified member of the public. The results of my analysis are provided below:

    a. Data1.xls stated that the Twister timber sale on the Bighorn National Forest used measurements to monitor wildlife effects, but the data2.xls database, which contains more detailed information about the project, only stated that "no TES are on the Forest, and no critical habitat was identified in the project area."
    b. Data1.xls stated that the Heart Mountain timber sale on the Rio Grande National Forest used measurements to monitor wildlife effects. It appears from data2.xls that a resource specialist measured the number of snags in the project area rather than directly surveyed for wildlife species. In addition, the sale was in lynx habitat but the database stated merely that "effects on habitat were acceptable," with no further data provided.
    c. Data1.xls stated that the Rock Tank timber sale on the Lincoln National Forest used measurements to monitor wildlife effects. However, both databases provided no information whatsoever about wildlife, and in fact most of the cells in the wildlife sections were left blank.
    d. Data1.xls stated that the Cibola National Forest used measurements to monitor wildlife effects. The only information provided was from data2.xls, which noted that "no negative effects to t&e or impacts to critical habitat. project results indicate increased forest health and reduced wildfire hazard. decision was for wildlife purposes and driven by wildlife."

11. Clearly no field surveys were ever conducted for wildlife species for any of these projects that the data1.xls database had stated that the measurements were used as a monitoring technique. I also examined the projects for which observation was identified as the monitoring technique (see below). I was not provided with a <u>single</u>

piece of information for which I could draw any conclusions about the effects of a project on any wildlife species. None of the projects actually conducted post-project wildlife surveys, and none provided detailed results of observations, other than simply stating that no negative impacts had occurred. After closely examining the available data, I have no idea how the various project managers reached their conclusions of no significant impacts to wildlife. It appears that I was expected to 'take their word for it' regarding wildlife effects. This approach is not science or adaptive management and, as I describe below, seriously violates the Information Quality Guidelines designed to ensure the objectivity of information disseminated by USDA agencies.

12. Field Methodology Used to Determine Effects on Wildlife

As stated above, 88% of the projects determined effects on wildlife through observation rather than measurements (although it appears that none of the projects conducted any measurements, either). For the purposes of this analysis, observation involved observing the area, examining a species occurrence list, and reviewing past documentation. While reviewing past documentation and species occurrence lists can be helpful in identifying wildlife species that are likely or unlikely to occur in the project area, this approach would not inform the project managers about the effects of the project on those species that are likely to be present. In most cases, effects were estimated by walking through the project site. However, no information was provided regarding the data collected during observations and how those data led to the conclusion that the project had no significant impact on listed and sensitive wildlife species.

13. I attempted to determine how the observations might have been conducted by reviewing all the information in column BM of the database data1.xls, which provided commentary on impacts. The cells included statements such as:

- "Wildlife, fisheries and watershed monitoring was conducted by observations on site."
- "Snag dependant wildlife habitat standards met with reserve areas near all clearcuts."
- "Monitoring was performed throughout the life of the project, 9/25/97 - 9/29/99. Findings of no effects to the environment."
- "Monitoring techniques consisted of observations during site visits and timber sale administration."
- "All monitoring was done by observation while walking through the treatment areas."
- "Wildlife habitat was improve [*sic*] through implementation of harvest treatments and goshawk guidelines. Monitoring was completed by walking through harvested units."
- "Walkthru and tour of the treatment areas making observations as they relate to context and intensity regulation of NEPA was the monitoring technique."
- "Treatment site walk-thru by monitoring team."
- "Monitoring techniques included direct observation as well as surmised outcome back on the activity, experience, observation and professional judgment."
- " Monitoring team used visual 'observation' and 'other' monitoring techniques."
- "The project area falls within the habitat management area for the endangered red-cockaded woodper.[*sic*] This population is monitoried *[sic*] annually for reproduction and predator control."
- "Wildlife - one sensitive spp. - no significant effect."

14. Clearly, by examining these statements and gleaning whatever information I could, I was unable to make any determination regarding the reliability of the methods and resulting conclusion. Some projects included more detailed statements about the post-project habitat quality; for example, "Habitat for species (including some sensitive) has been improved by opening up stand while maintaining sufficient structural aspects for breeding and foraging." While this statement provides some information about habitat within the project area, it is purely a subjective statement and does not include any supporting data such as survey results to verify the

conclusion. Other projects noted the potential presence of several species of concern. Again, however, post-project surveys were not conducted to allow for the determination of non-significance. In one case, the database noted that "The Biological Evaluation called for monitoring of the project area for use by blackbacked woodpeckers and the three sensitive bat species post-harvest. Limited KV collections did not allow funding of KV/SAI beyond essential reforestation activities. No further project specific monitoring of blackbacked woodpeckers or bats was conducted." In another case, data2.xls noted that "The biological evaluation recommended retention of the smaller diameter, submerchantable trees for black backed woodpecker habitat, as they had been observed within the project area. This was done during implementation of the project. Many of these dead trees remained standing as habitat for black backed woodpeckers approximately 5-7 years before falling to the ground." Again, no surveys for black-backed woodpeckers apparently had been conducted to verify that the project did not negatively impact the species, and that the species was in fact utilizing the habitat.

15. Given the data provided, I was unable to determine whether the walk-through monitoring observations included such activities as: searching for evidence of presence (i.e., nests, feathers, pellets, and/or whitewash for raptors; runways, feces, and burrows for small mammals; etc.); qualitatively looking at habitat features such as snags, large trees, and down woody debris, or another method of detection. While observations for presence/absence and habitat quality based on visual "walk-throughs" are valuable (if, in fact, these types of observations were used: types of observations were rarely described), it is my professional opinion that this monitoring

technique is seriously inadequate for quantifying actual effects of the project on listed and sensitive wildlife species. Resource specialists can visually estimate suitable habitat, but occupancy by a target species is unknown until protocol-level presence/absence surveys are conducted, and the impacts of the project on a wildlife population cannot be known without demographic studies using techniques such as capture-mark-recapture. For example, determining presence or absence of a spotted owl on my former research project by simple observation of an area rather than by protocol-level surveys would be wholly unacceptable. In some cases, presence of a roost or nest site can be determined by observations of pellets, feathers, and whitewash, but the absence of this evidence does not lead to the conclusion that an owl is not present in the area, because this evidence may not exist or may not be seen by the observer (i.e., absence of evidence is not evidence of absence). Merely walking through the forest and looking at habitat does not provide enough information about the use of an area by a given wildlife species to determine impacts of a project. It is scientifically unjustifiable to definitively conclude effects on listed and sensitive wildlife from mere observation.

16. In addition, data2.xls contains numerous statements that surveys conducted prior to the project for Biological Evaluations or Biological Assessments had determined that there was no presence of listed or sensitive wildlife species. Perplexingly, it was then assumed that the species did not occur on the site after the project had been implemented. Surveys conducted for the BE/BAs can only determine the lack of presence at the time of the original surveys. The purpose of monitoring is to conduct additional surveys to determine impacts of the project, and to allow for adaptive

management using the information collected from the additional surveys. Merely stating that listed or sensitive wildlife species with the potential to occur on the site were not located on the project site before project implementation, does not suggest that the species would not be found on the project site after implementation, at the time of monitoring.

17. Finally, data1.xls indicates that wildlife monitoring was only conducted for one day, the vast majority of which were sometime in September, October, and November (including some in December and some in February). First, one day of monitoring is insufficient. Second, the breeding season for most forest-dependent species is spring-summer. I am unsure why a resource specialist who supposedly has expertise in the field of wildlife biology could assume that wildlife presence could be determined by observing the project area on only one day and during the winter.

18. <u>Violation of the Information Quality Guidelines</u>

    The Forest Service's methodology used in the monitoring violated the USDA Information Quality Guidelines for Regulatory Information in several ways. In fact, an examination of the information provided in the database of monitoring reports suggests that virtually none of the following Information Quality Guidelines were adhered to in the Forest Service's analysis of projects that meet the criteria for Limited Timber Harvest Categorical Exclusions:

    - ✍ Use sound analytical methods in carrying out scientific and economic analyses and in preparing risk assessments.
    - ✍ Use the most reliable and timely data and information available (e.g., collected data such as from surveys, compiled information and/or expert opinion).
    - ✍ Evaluate data quality and, where practicable, validate the data against other information when using or combining data from different sources.

- ✍ For quantitative assessments, clearly state the uncertainty of final estimates to the extent practicable. Data and data collection systems should, as far as possible, be of sufficient quality and precision that uncertainty in the final estimates is appropriately characterized.
- ✍ Ensure transparency of the analyses by presenting a clear explanation of the analyses to the intended audience [and] providing good documentation of data sources, methodology, assumptions, limitations, uncertainty, computations, and constraints [and] explaining why certain data were used over other data [and] presenting the model or analysis logically so that the conclusions and recommendations are well supported.
- ✍ Clearly identify sources of uncertainty affecting data quality.
- ✍ Use data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies the use of the data).

19. As I described above, absolutely no quantitative information was provided regarding the effects of any of the projects on listed and sensitive wildlife species. There were no consistent standards for wildlife monitoring required in the analysis of projects, as evidenced by the variety of methods used to determine impacts on wildlife (i.e., 1-4 in data1.xls). Further, no information was given about how the observations or measurements were conducted and what the results were; given the data provided I actually would assume that no field measurements were ever conducted except in one case where snags were measured (but no information about wildlife species using the snags was offered). I could not determine the specific data collected from the monitoring techniques, and projects that used "other" as a monitoring technique did not explain what that method entailed. Thus, transparency of the analysis in terms of providing a clear explanation of procedures and good documentation of data sources, methodology, assumption, etc., was by no means ensured. No sources of uncertainty affecting the data quality were identified: in fact, many of the assessments of project impacts contained sweeping statements such as "habitat for species (including some sensitive) has been improved by opening up stand while maintaining sufficient

structural aspects for breeding and foraging," without any supporting evidence or indication of uncertainty in the conclusion. The data were not collected by accepted methods or best available methods data, and the most reliable and timely data and information available were not utilized, because none of the projects conducted wildlife monitoring using real quantitative measurements, many of the projects relied on old BE/BA surveys to conclude presence/absence of listed and sensitive wildlife species without conducting additional post-project surveys, and the vast majority of the monitoring efforts were conducted on only one day in the winter (which is not the optimal season or level of effort for assessing wildlife use of an area). Finally, because the most widely used method of monitoring involved a subjective, observational "walk-through" of the site with no subsequent reporting of results in an objective format, I could not determine that the data were protected from manipulation and/or falsification. As a result of these deficiencies in the wildlife monitoring analysis, I found the data to be extremely unreliable for making any conclusions about the effects of a project on wildlife species.

20. In sum, no quantitative data were provided to allow me to determine the reliability and objectivity of the project monitoring efforts. The reliance on inadequate techniques for determining impacts to wildlife species will result in the erosion of trust in the Forest Service regarding the objectivity of their information about the impacts of Categorically Excluded projects.

Respectfully,

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Research Experience

2001-current ***Biologist,* Center for Biological Diversity**, Idyllwild, California
Monitor public and private lands management plans to ensure adequate protection for imperiled species.

1999-2001 ***Research Fellow,* U. of Minnesota Dept. Fisheries, Wildlife, & Conservation Biology**, Sierra Nevada, California
Studied demography and ecology of California spotted owls. During field seasons (April–August) planned and participated in data collection on occupancy and reproductive status of owls; captured, measured, and banded adult and juvenile owls; trained and supervised field assistants; and conducted independent research related to the project. During the off-seasons (September–March) assisted in data management, analysis, and reporting of results; wrote manuscripts for scientific journals; interviewed and hired field assistants; and conducted analyses of owl habitat using GIS maps.

2000 ***Consulting Biologist,* North Coast Resource Management**, Calpella, California
Conducted surveys for Northern spotted owls on private lands in Mendocino County.

1998 ***Field Biologist,* Institute for Bird Populations**, Lemoore Naval Air Station, California
Participated in a demography and toxicology study of Western burrowing owls. Captured, measured, banded, and radio-collared adult and juvenile owls; radio-tracked owls for 3 months to determine foraging ecology; assisted in developing field sampling methods, telemetry techniques, and equipment design.

Winter 1997 ***Teacher's Assistant, Principles of Wildlife Conservation,* OSU Dept. Fisheries & Wildlife**, Corvallis, Oregon
Created and presented lectures and led discussions on wildlife and habitat conservation and management; maintained the student database; and proctored and graded exams.

1997 ***Research Technician,* OSU Dept. Fisheries & Wildlife**, Corvallis, Oregon
Assisted with field research on the space-use and demographic responses of gray-tailed voles to the application of the insecticide Guthion. Helped with trapping, radio telemetry, and data entry.

1996–1997 ***Field Assistant,* OSU College of Forestry**, Corvallis, Oregon
Assisted Vegetation Management Cooperative with field research investigating regrowth of trees in response to varying levels of herbicide and fertilizer. Aided Nursery Cooperative with laboratory research on root growth potential and frost hardiness of trees.

1996–1997 ***Volunteer Intern,* Blue Mountains Biodiversity Project**, Fossil, Oregon
Conducted field surveys of timber sales on public forests in eastern Oregon to ensure compliance with federal environmental regulations and to determine presence of old-growth indicator species.

1996–1997 ***Volunteer HCP Coordinator***

1992–1993 ***Community Organizer*, Green Corps**, Portland, Oregon
Worked as a grassroots organizer for several national conservation organizations on such issues as recycling, clean air, endangered species, old-growth forests, and tropical rainforests. Organized press conferences; planned community events; directed a door-to-door canvass; and lobbied members of Congress.

Education

1996–1998 ***M. S. Wildlife Science*, Oregon State University**, Corvallis, Oregon
Master's Project: Density, Sex Ratio, and Space Use in Gray-tailed Voles (*Microtus canicaudus*)
Awards: Northwest Scientific Association Scholarship
Gamma Sigma Delta (The Honor Society of Agriculture) Scholarship

1988–1992 ***B. A. Biology*, Duke University**, Durham, North Carolina
Senior Independent Study: The Heat is On: The Hawaiian Geothermal Controversy
Honors: Dean's List 1990–1991
Dean's List with Distinction 1991–1992

Skills and Accomplishments

Certified Wildlife Biologist, The Wildlife Society, received May 10, 2000.
The Wildlife Society Western Section - Conservation Action Committee

Field research: Small mammal trapping, bird surveys, raptor trapping and banding, radio telemetry, vegetation sampling, forest habitat surveys.
Computer: Corel: WordPerfect, Paradox, Presentations; Microsoft: Word, Excel, Powerpoint, Access; SAS v8; Lotus 1-2-3; Dbase IV; SigmaPlot; Harvard Graphics; ArcView 3.2; Arc Info; MARK.
Other: Community organizing, teaching, writing, and public speaking.

Scientific presentations:
· *Density, sex ratio, and space use of male gray-tailed voles.* Northwest Scientific Association/Society for Northwestern Vertebrate Biology Annual Meeting, March 1998.
· *Sex ratio, space use, and edge effects in the gray-tailed vole: field tests of alternative hypotheses.* University of Memphis Department of Biology Seminar, March 1999.
· *Density, sex ratio, and space use in gray-tailed voles.* Humboldt State University Department of Wildlife Seminar, November 1999.
· *Density of old growth trees in the central Sierra Nevada: do spotted owl nesting areas reflect densities found in old forest areas?* Carnivores 2002, November 2002.
· *Short-term effects of wildfires on spotted owl survival, site fidelity, mate fidelity, and reproduction*. Fire 2002: Managing Fire and Fuels in the Remaining Wildlands and Open Spaces of the Southwestern United States, December 2002.

Selected scientific publications:
· Bond ML, Wolff JO 1999. Does access to females or competition among males limit home-range size of males in a promiscuous rodent? Journal of Mammalogy 80:1243-1250.
· Seamans, ME, Gutiérrez RJ, Bond ML 2000. Population ecology of the California spotted owl in the central Sierra Nevada: annual results 1999. US Forest Service, Region 5, San Francisco, CA.
· Seamans, ME, Gutiérrez RJ, Bond ML 2001. Population ecology of the California spotted owl in the central Sierra Nevada: annual results 2000. US Forest Service, Region 5, San Francisco, CA.
· Hunter JE, Bond ML 2001. Residual trees: wildlife associations and recommendations. Wildlife Society Bulletin. 29:995-999.
· Bond ML, Gutiérrez RJ, Franklin AB, LaHaye WS, May CA, Seamans ME 2002. Short-term effects of wildfires on spotted owl survival, site fidelity, mate fidelity, and reproduction. Wildlife Society Bulletin 30:1022-1028.
· Bond ML, Wolff JO, Krackow S 2003. Recruitment sex ratios in gray-tailed voles (*Microtus canicaudus*) in response to density, sex ratio, and season. Canadian Journal of Zoology. 81:1306-1311.
· Bond ML, Gutiérrez RJ, Seamans ME (in review) Modeling nesting habitat selection of California spotted owls (*Strix occidentalis occidentalis*) in the central Sierra Nevada: the value of Forest Inventory and Analysis metrics. Forest Science.

References available upon request